

MEETING SUMMARY

HABITAT CONSERVATION PLAN

Technical Advisory Committee

Tuesday, November 21, 2006 9:00am - Noon

Arizona Game and Fish Department Meeting Room

555 North Greasewood Road

Tucson, Arizona 85745-3612

City of Tucson Technical Advisory Committee: Guy McPherson, Trevor Hare, Rich Glinski, Lori Anderson (Coalition for Sonoran Desert Protection), Linwood Smith, Marit Alanen (USFWS), Dennis Abbate (AGFD), Dennis Rule (Tucson Water Department)

Attendees: David Jacobs (Arizona Attorney General's Office/Arizona State Land Department), Brian Powell (UA, Tucson Audubon Society), Kathleen Kennedy (Town of Marana), Ann Phillips and Leslie Liberti (City of Tucson – Office of Conservation and Sustainable Development), Jessica Lee, Tom Furgason, and Geoff Soroka (SWCA)

1) Update Upcoming Meetings

a. Scheduled TAC Meetings:

December 5, 9am-noon, @ AGFD. Tentative Topics: Finish Avra Valley Conservation Program; Begin Monitoring and Adaptive Management Program.

Future meeting schedule TBA

2) Old Business

a. Meeting Minutes – September 5 and September 19, 2006 Minutes

Leslie asked the TAC members if there were any comments or edits related to the September meeting minutes. Ann noted that Ralph Marra (Tucson Water) provided comments several weeks ago, clarifying language that described the position of Tucson Water regarding the uncertainty of future water development projects and where they would be located. Dennis R. added that Tucson Water considers 7,300 acres to be the maximum amount of land developed, however the exact layout is unknown at this time. Leslie added that Tucson Water might consider some lands for disposal as well. She said that, without the HCP, there would be no way to guarantee that Tucson Water lands would be preserved over the long term. The TAC approved the minutes with Ralph's comments, pending any suggestions from Dennis A.

b. Survey Contracts Update

Ann said that the contracts have been sent out for all of the surveys that were approved by the TAC a few months ago, including burrowing owl studies, seed bank, cacti surveys, and Phil Rosen's work. The final report (The City of Tucson HCP: Burrowing Owl Occupancy Surveys within the City of Tucson's Avra Valley Properties) has been released for the recent burrowing owl surveys conducted by AGFD.

c. Updates

Ann said that the Buffelgrass Summit meeting has been rescheduled for February 12, 2007. As for Avra Valley buffelgrass management, Tucson Water is waiting to mow buffelgrass until after the first winter rain, due to wildfire concerns.

Ann explained that Pima County, led by Stantec, is currently undertaking the Lee Moore Basin Watershed Study. The County is attempting to develop a regional approach to stormwater management in this watershed in order to avoid possible piecemeal impacts resulting from many separate small development projects expected to occur in the area. The goal is to design a stormwater plan that does not increase discharges into the Santa Cruz River as the result of new development projects. The City recently met with the County and Stantec to discuss and share GIS models. Leslie noted that approximately 85 percent of the Southlands HCP planning area is located within the Lee Moore Watershed study area. She said that the study also illustrates Arizona State Land Department (ASLD) efforts to begin looking at the area in a regional context, before any of the land is selected for auction. It is important to the success of the HCP that the City and TAC coordinate efforts and goals in the future. She suggested that Pima County present the study to the TAC early next year. The draft Lee Moore Basin Watershed Study is scheduled for release next winter. The goal of this study is to help develop a regional plan related to stormwater management, including enacting appropriate standards and rules for development. The overall intention is that these standards would then be adopted by the various jurisdictions involved in the study. Ann stressed that the timing of the Southlands HCP would be tied to that study.

Leslie provided a background and update on City watercourse-related ordinances. She said that the City Council approved the Interim Watercourse Protection Policy and revised development standards for watercourses on November 7, 2006. She noted that the City withdrew a rezoning application earlier in the year that would have expanded the number of washes covered under then-existing ordinances due to controversy, not because washes were being added to the ordinance, but because four segments of washes had been removed from the rezoning application. She noted that adding washes by submitting a rezoning application results in notification of only those people who live near the washes, not the entire community.

Leslie stated that the City believes that preserving washes in their natural state is good for the entire community, and has enacted multiple policies over the years to meet this objective. The City developed the new Interim Watercourse Preservation Policy to address riparian habitat within the 100-year floodplain of washes that have a flow of 100 cubic feet per second (CFS) or greater. This policy clarified the relationship between the

ERZ, WASH and floodplain ordinances, and consolidated these so that all regulations entail the same processes and requirements. Mayor and Council did not adopt new regulations, but rather adopted a revised development standard for watercourses that clarified terms such as “no unnecessary alteration” and “riparian habitat.” The City also received recommendations from the Stormwater Advisory Committee. The watercourse policy and development standards dovetails with the Southlands planning efforts as the City is exploring options for working with Arizona State Land Department (ASLD) to evaluate ASLD administered lands in the Southlands on a large-scale basis instead of rezonings these lands piece-by-piece. This approach would be beneficial to both the ASLD and the City, by clarifying what would be preserved and what could be developed prior to land auction, and would allow the City to preserve washes on a larger-scale. In terms of the revised development standards, Ann added that encroachment is allowed for road, utility, or paved trail crossings of the wash, but additional encroachment has limitations on it. Rich asked if the review for a Clean Water Act 404 permit was still separate from what the City would now require. Leslie said that a 404 permit’s impact to washes focuses on disturbances to waters of the United States, whereas the City ordinance focuses on preserving riparian habitat. Thus, these would be separate reviews.

Dennis R. brought up recently passed legislation resulting from Proposition 207, and asked if it would impact what ASLD could do with their lands. Leslie said that the City Attorney’s Office is still looking into the new law. Related to ASLD lands, she said that conservation goals could still be accomplished through development agreements. David agreed that this is possible, since Proposition 207 enhances the power of private landowners. In essence, ASLD could choose to regulate itself with conservation standards.

Ann noted that Pima County is currently working on the management and monitoring plan for the Sonoran Desert Conservation Plan, and there was a meeting last week related to this effort. Brian, who facilitated the meeting, noted that they hope to have a draft management and monitoring plan by April 2007. Ann noted that the County’s efforts could help inform the City’s HCP process.

3) New business

a. Avra Valley Discussion: Review drafts of Effects of Conservation Programs

Leslie provided a packet of maps to all TAC members, including total potential suitable habitat in Avra Valley, and potential suitable habitat for each species. She noted that the goal is to use this information to guide the formulation of a conservation program, including the establishment of mitigation strategies for the anticipated development. She discussed the species tables, in particular the statistics regarding potential habitat that has been captured within the current envelope of conservation areas for Avra Valley. Leslie noted changes in the Avra Valley HCP include subtraction of acreage on the North Simpson and Santa Cruz properties because some restoration work conducted there by Tucson Audubon Society is to fulfill in-lieu mitigation requirements under the Clean

Water Act 404 permit mitigation and cannot also be counted as HCP mitigation. OCSD will contact Tucson Audubon to determine the 404 mitigation acreage after which the acreage on the table and maps will be revised accordingly.

She also noted that the Trust 205 parcel was initially left out of the original habitat analysis because Tucson Water did not anticipate using that property for development. This 350-acre parcel has now been added back into the habitat calculations and has yet to be mapped for cactus ferruginous pygmy-owl. She noted that it contains good upland habitat and is bordered by Ironwood Forest National Monument. Trevor asked if this parcel is being considered for disposal by the City. Leslie noted that the mitigation plan could include a conservation easement on the property. She also noted that before the pygmy-owl was delisted, Tucson Water had been engaged in Section 7 consultation with U.S. Fish and Wildlife Service regarding the Southern Avra Valley Storage and Recharge Project (SAVSARP) property. After the delisting, the process was put on hold. Tucson Water has decided for the time being to add the property to the HCP, with the understanding that “take” issues might be resolved quicker this way than by waiting for the Section 7 consultation process to continue. She explained that, while it is not part of the HCP, the TAC would have to keep in mind that the development footprint and mitigation strategy have already been outlined for this property. Dennis R. added that if Section 7 consultation appears to address “take” issues at a quicker pace in the future, then Tucson Water would choose to remove the property from the HCP. Leslie said that the City would continue to provide the TAC with refined Avra Valley maps in the future.

Western Burrowing Owl

Leslie discussed the recent AGFD burrowing owl studies in Avra Valley and noted that the survey results were included in the potential habitat calculations in the table. AGFD staff only surveyed parcels containing suitable breeding and over-wintering habitat. Per the study, the HCP habitat models were revised, decreasing the total potential habitat available for the species from approximately 16,000 acres to 9,700 acres. Geoff added that, once some portions of the North Simpson and Santa Cruz Farm parcels are added back in (following determination of 404 mitigation acres), this would likely increase the total potential habitat from the current acres listed in the table. Leslie said that, from the 9,700 acres of potential burrowing owl habitat currently available, the Avra Valley conservation reserve system captures 27 percent. She said that the SDCP goal for burrowing owl is 75 percent, however, the County has not yet met that target goal and has only captured 37 percent of potential habitat in their priority conservation area (PCA) system.

She added that, although breeding and over-wintering habitat is constrained, much of the Avra Valley lands contain decent dispersal and foraging habitat. She added that fragmentation of habitat does not impact the burrowing owl as much as other species, although Dennis A. noted that fragmentation does increase hazards for the species, including those related to roads and other human impacts. He also noted that the TAC has not yet discussed the effects of conservation on a species. As an example, Dennis brought up the issue of trying to manage burrowing owls near airports. He contemplated that the

conservation actions could potentially increase the population to the point where it creates problems with vehicles, airplanes, etc., and that the City would need to decide how to manage this type of situation.

The TAC then discussed how the County arrived at the 75 percent conservation target for this species. Trevor asked what the County used to map burrowing owl modeled habitat. Leslie said that she has asked the County this question previously and they were not able to provide acreage numbers for specific habitat, and that the 75 percent conservation goal was derived from the PCAs. Leslie noted that suitable foraging and dispersal habitat could also be enhanced, especially through the placement of artificial burrows. She suggested to the TAC that the group should consider creating burrowing owl management areas (BOMAs) in locations where the group wants to actively improve breeding habitat. She noted that, although it is not currently in the SDCP, the County would be using the BOMA strategy for this species. Ann noted that regulations around airfields might restrict the placement of the BOMAs. Leslie reiterated that the basic strategy for burrowing owl is to capture breeding and over-wintering habitat in the conservation reserve system and in the BOMAs. She said that the species would likely benefit from Avra Valley lands that are not developed.

Leslie reviewed the goals for protecting burrowing owl populations, which included: avoiding mortality due to construction, providing habitat for over-wintering and migrating owls, avoiding mortality due to management, improving the foraging quality within protected areas, and minimizing disturbance to owls/burrows. The measures that will be used to accomplish these goals include: surveying for owls prior to construction, creating BOMAs, maintaining database on burrow locations and marking these locations before potential disturbance events, removing non-native species, and maintaining wildlife-friendly fencing around properties.

She said that the advantage of creating BOMAs is that those lands could just be mitigated specifically for burrowing owls, not having to provide conflicting habitat elements for other species. She noted that burrows exist on the Santa Cruz Farm parcel. Also, the Cactus Avra Farm parcel provides good habitat for the owl, even though it is not mapped within the reserve system. Ann suggested adding the Martin Farm parcel to the reserve system and Marit agreed, adding that owls have been found there in the past. Trevor asked if friendly-roadway designs would be considered in Avra Valley. Dennis A. responded that the flight patterns of burrowing owls vary, unlike pygmy-owl, and that improving the roadway design would not necessarily help this species. Trevor noted that monitoring speed limits could decrease mortality by vehicle strikes. Leslie suggested that BOMAs could be positioned away from roads to the extent possible.

Rich asked who would oversee the management and monitoring of the BOMAs. Leslie said that, due to the requirements of the HCP permit, the City would take primary responsibility, but that it would be possible to make partnerships. Dennis R. noted that the mitigation requirements could be incorporated into each development project; however, Tucson Water does not currently have the funding to conduct the mitigation, management and monitoring of all lands in the Avra Valley HCP. The City Council

would need to evaluate instituting a funding mechanism. Leslie said that the Southern Arizona Home Builders Association (SAHBA) is looking to relocate burrowing owls from the metro Phoenix area into Avra Valley. Rich pointed out that this highlights the variety of partners that could be involved in the conservation program in Avra Valley.

Dennis A. highlighted the problems that could be caused by “over conservation,” or the relocating of too many owls into one small location. He said that the saturation point of Avra Valley should be considered because it is not reasonable to think that this part of the state could manage the entire central/southern Arizona burrowing owl population. He questioned the goal detailed in the burrowing owl conservation program “to increase the number of burrowing owls,” and suggested that perhaps the goal should be rather “to manage a stable population of burrowing owls.” When asked if anyone is tracking the number of owls in Avra Valley, Dennis A. responded that, while AGFD is working on large-scale regional burrowing owl surveys across the state, it is not necessarily exhaustive, due to various constraints including access issues. Leslie added that owls are very mobile, thus it is not always clear as to why an owl chooses whether to stay in one area or not. She said that BOMAs could be managed so that owls are only placed there if there is adequate space. Rich stressed the importance of regional analysis and coordination, and the role of adaptive management. Dennis R. noted that it is important that the City receives the mitigation credit, not SAHBA or other parties. Marit brought up concerns about moving owls too far, due to geographic differences in behavior. Leslie suggested that the TAC speak with people at Wild at Heart.

Leslie said that, in the Town of Marana HCP, the technical advisory committee recommended establishing three BOMAs of at least 20 acres in size with four owl pairs. She said that research on owl density and territory size is not conclusive. Trevor suggested that the potential owl relocation (“hacking”) sites should be detailed in the plan. Leslie suggested establishing hacking sites outside of the BOMAs. She asked the TAC if they felt comfortable taking the BOMA approach, and they agreed. She reviewed the data from AGFD, noting that 34 owls were observed over-wintering and that four owls were observed during breeding season. AGFD staff noted 1,836 suitable burrows in the study area, however, approximately 40 percent of them collapsed between summer and winter, mainly due to soil conditions, erosion, and sheet flow. The report noted that coyotes and badgers are the main creators of suitable owl burrows in Avra Valley. Trevor suggested establishing four BOMAs. Dennis A. noted that, while burrowing owls are generally a migratory species, owls in Tucson are unique because of the high number of resident birds here. Leslie noted that, due to the high collapse rate of burrows, artificial burrows might benefit the species. Rich added that it is possible that owls in this bioregion cannot be as successful as in traditional grassland habitat.

Dennis A. stressed that the TAC needs to avoid developing one standard formula for dealing with all burrowing owls. Trevor suggested that it might be beneficial to map soil types, past land uses, proximity to roads, etc. The TAC discussed the positives and negatives associated with establishing a few larger BOMAs versus several smaller BOMAs. Leslie suggested that, due to the lack of density information and prey availability, it might be best to spread out the locations of BOMAs across Avra Valley.

Rich said that he felt more comfortable consulting experts. He suggested that the conservation goals for the owls should be specified per Dennis A's concerns regarding over-conservation. Leslie said that BOMAs could be flexible in size (within a range) pending the number of burrows and owls. Geoff asked if AGFD noted the occurrence of burrow-creating species in their study. Leslie said that she did not think so.

Cactus Ferruginous Pygmy-owl

Leslie noted that adding the SAVSARP 2,400-acre property into the HCP changes the original total acreage noted as owl dispersal habitat. She said that the entire property has been mapped as dispersal habitat; however, mitigation requirements have already been outlined. She suggested that, due to the uncertainty regarding whether the property would remain in the HCP for the long-term, the TAC should not necessarily rely on it as mitigation potential for other lands. Leslie reviewed all of the areas captured in the habitat models. The TAC then discussed various parcels on the maps, noting areas that contain potential dispersal habitat, and also areas that have potential for habitat enhancement.

She noted that the Buckalew Farm has restoration potential and could be used for mitigation. Rich noted that stringers of mesquite along the property borders could provide adequate dispersal habitat. Dennis R. noted that the plan for SAVSARP is to plant trees in between each of the recharge basins. Rich stressed that, even on "developed sites," there would still be potential to provide some level of dispersal habitat. Trevor reminded the TAC that he would like to see a buffer around the dispersal corridors outlined in the conservation reserve strategy. The TAC discussed the Ed Anway and Anway parcels and drew a buffer around the areas already captured by the conservation reserve system on the maps provided by Leslie. Leslie noted that the Anway parcel was not originally included in the reserve system. She noted that, by including this parcel in the potential dispersal habitat calculations, the total percent habitat captured by the reserve system is close to 75 percent.

She noted that there exists PCA for the owl within Avra Valley. Leslie reviewed the provided table for the owl detailing the conservation goals which included: maintaining multiple layers of vegetation, maintaining diverse prey base, maintaining nesting opportunities, reducing barriers to movement, and minimizing potential for mortality. The measures to achieve the goal included removing non-native vegetation, revegetating cleared areas, managing for wildfire, protecting existing nests, maintaining saguaros and woodpecker populations, protecting dispersal corridors, avoiding fragmenting habitat, and minimizing impacts from development.

Trevor noted that old growth mesquite bosque could provide potential nesting habitat. Dennis A. discussed the research findings from the pygmy-owl study commissioned by the Arizona Department of Transportation (ADOT) to evaluate the impacts that roadways may have on the species. He said that 140 pygmy-owl flights were observed over roadways, in which the bird would fly between perches on both sides of the road. The study found that the mean flight distance between perches was approximately 30 meters. Thus, he suggested to the TAC to consider spacing appropriate perches at that distance.

He recommended that the City use a tree canopy pallet consisting of leguminous trees (ie: paloverde, desert ironwood, mesquite). He explained that using a mix of desert ironwood and mesquite is important because the tree species drop their leaves at different times during the year, thus leaving adequate cover for pygmy-owls. The main focus of protecting and enhancing tree canopies in Avra Valley is to increase the number of suitable perches for over-night use.

He said that owls do not typically fly higher than six meters. He discussed the research pertaining to the structure and size of mid-story and under-story vegetation. He noted that pygmy-owls have been observed perched in acacias, ocotillos, and even larger *Opuntia* species. Ann asked about appropriate shrub species and began listing a plant pallet. He said that he does not consider Avra Valley to contain much nesting potential. However, he did note that Buenos Aires National Wildlife Refuge is considering the placement of nest boxes as a form of habitat enhancement. He suggested that the TAC talk with Scott Richardson and Glen Proudfoot for more information regarding the potential use of this strategy in Avra Valley. Brian added that the TAC should also talk with Aaron Flesch, the researcher who conducted the pygmy-owl ADOT research in northern Sonora, Mexico.

Leslie noted that the SAVSARP project is going to displace many trees that could be relocated to other areas. The TAC discussed the pros and cons of transplanting older trees versus planting younger, nursery-grown trees. Ann suggested that the TAC review Brad Lancaster's data regarding the growth of transplanted trees versus the growth rate of new or volunteer trees. Dennis R. noted that there are high levels of crime and theft in Avra Valley and that any infrastructure placed out there for restoration (ie: irrigation lines) could easily disappear. Trevor noted that the original farming irrigation foundation is still present at the Buckalew Farm.

Leslie asked the TAC to decide on an adequate width for the mapped dispersal corridors for use in the conservation reserve program. Dennis A. noted that he does not know the perfect width for pygmy-owl use, however, if vegetation was appropriately placed, an approximately 200-foot corridor might suffice. He noted that his data is based on incidental observation, however, he stressed that the City should maximize the corridor widths whenever possible. Trevor suggested that the TAC look closely at the maps to see what the conservation reserve strategy has captured, and then see if it is enough or if more needs to be added.

Leslie asked the TAC if they thought that the City should do pygmy-owl surveys in Avra Valley. Trevor said that he would feel comfortable with pre-construction surveys. Dennis A. noted that AGFD did track one dispersing pygmy-owl moving north from the Altar Valley into Maricopa County; however, he said that it would be surprising to find resident owls in the Avra Valley HCP planning area. He said that owls would be more likely detected during the fall dispersal season, however, he stressed that these surveys are difficult due to the mobility of the owls and that during this season they do not necessarily return calls. He suggested that focusing surveys on habitat "hotspots" might be a better use of time and money. Trevor said that he would feel more comfortable if the

TAC discussed this matter with Scott Richardson (USFWS), especially regarding whether the agency requires surveys in Marana. If so, the City might want to reconsider surveys in the planning area. Dennis A. noted that AGFD is only funded to conduct specific surveys to answer particular research questions, not to conduct general surveys of an area. AGFD does monitor known pygmy-owl territories, though.

Leslie asked the TAC if they felt comfortable with the conservation strategy for pygmy-owl. Ann noted that pygmy-owl habitat overlaps with burrowing owl habitat in some areas of Avra Valley, and that the needs for each of these species conflict. Leslie suggested that, if a parcel is mapped for pygmy-owl use, preferred management of that land should be for that species. However, if the land is included in a BOMA, then the land should be managed for burrowing owl. Trevor added that, if the pygmy-owl is relisted, the TAC might have to prioritize managing for pygmy-owl over all other species. Leslie responded that it is important for the TAC to decide how to manage for both species so that there is not a conflict in management, regardless of a possible future relisting. Rich suggested a change of wording in the Chapter 5 Conservation Program for pygmy-owl to emphasize protecting dispersal habitat over breeding habitat. Trevor suggested to the TAC that they review the HCP pygmy-owl conservation program with the members of the pygmy-owl draft recovery plan. Leslie mentioned that the draft recovery plan does not include a high level of detail for Avra Valley, but is rather focused more on the specifications of development within breeding areas.

4) Call to the Public

No members of the public were present.

5) Next Steps/Future Meetings

Leslie explained that the TAC might finish the discussion of species and the conservation reserve program at the December 5 meeting. She said that the goal is to have the Avra Valley HCP draft concluded by the end of December. Ann requested that the TAC provide comments to the City regarding the Chapter 4 species account section.